



Hybrid Hazelnut Consortium Update

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Hybrid Hazelnut Consortium

- Arbor Day Foundation
- Oregon State University (OSU)
- Rutgers University
- Nebraska Forest Service (NFS)
- Started in 2008
- Develop EFB resistant, cold hardy plants



Hybrid Hazelnut Consortium

- Crosses made at OSU and Rutgers
- NFS propagates and screens in our test plots
- EFB resistance
- Cold hardiness
- Insect pests
- Yield and quality
- Flowering and other phenotypic data



Upcoming Releases

- 'Grand Traverse'
- OSU 541.147 'The Beast'
- NADF 10-50



'Grand Traverse'

- Developed by Cecil Farris
- 'Faroka' x unknown *C. avellana*
- 75% *C. avellana*, 25% *C. colurna*
- EFB resistant and cold hardy in Nebraska which is Zone 5



'Grand Traverse'

- 11lbs per tree avg.
- Avg. kernel wt. of 1.3g
- 40% kernel
- Arbor Day Foundation and Great Plains Nursery in fall 2020



OSU 541.147 'The Beast'

- 75% *C. avellana*, 25% *C. americana*
- EFB resistance from *C. americana* 'Rush'
 - OSU 541.147 = NY 110 x Avellana Mix 1990, and S-alleles tell us the pollen parent is OSU 226.118
 - NY 110 = *C. americana* Rush x DuChilly (Sathuvalli et al. 2012)
 - NY 110 is from George Slate's work in Geneva, NY.
 - OSU 226.118 = Tombul Ghiaghli x OSU 42.103
 - OSU 42.103 = Montebello x Compton



OSU 541.147 'The Beast'

- At 6 years old it was producing around 17lbs of nuts
- 43% kernel
- Available from Arbor Day and Great Plains Nursery fall 2020





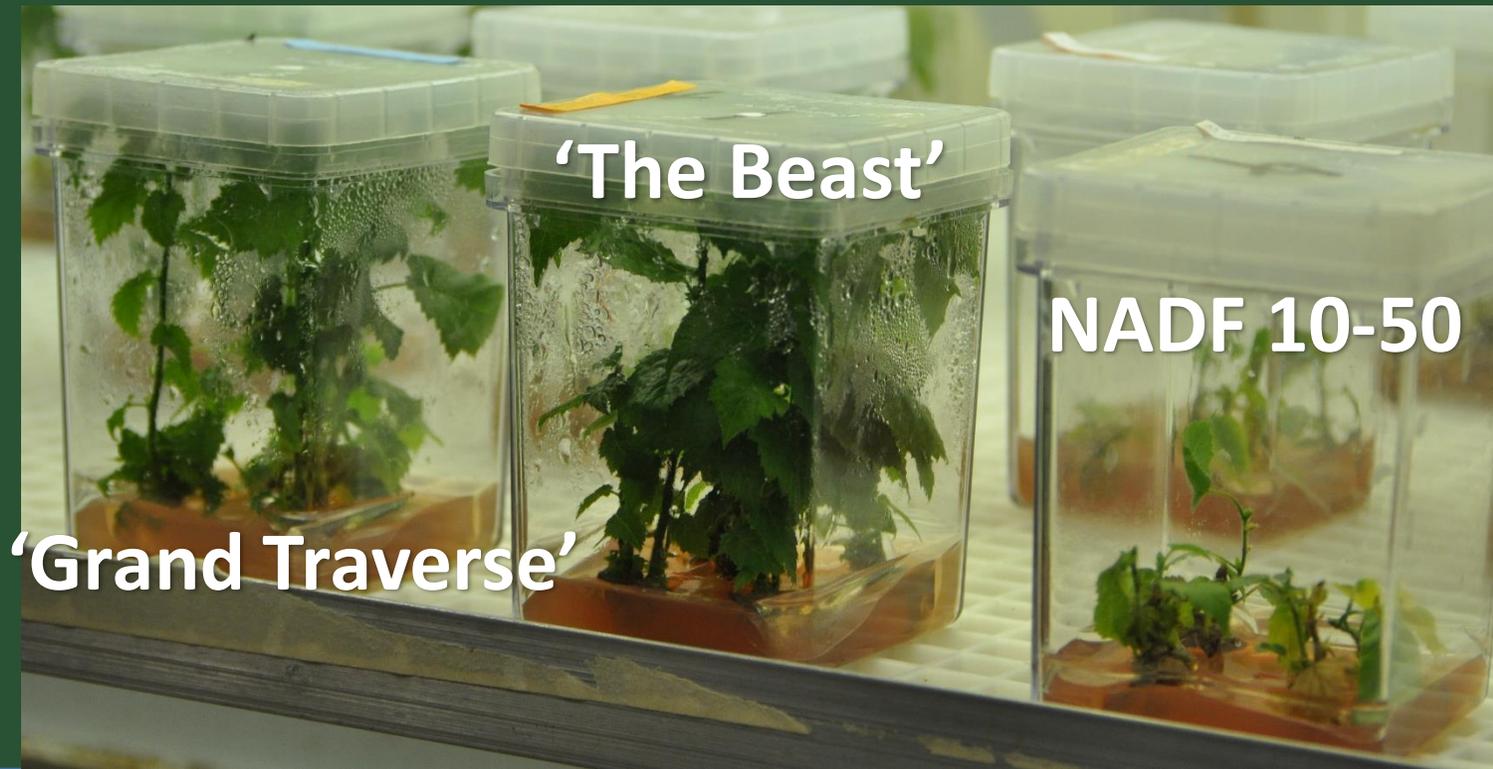
NADF 10-50

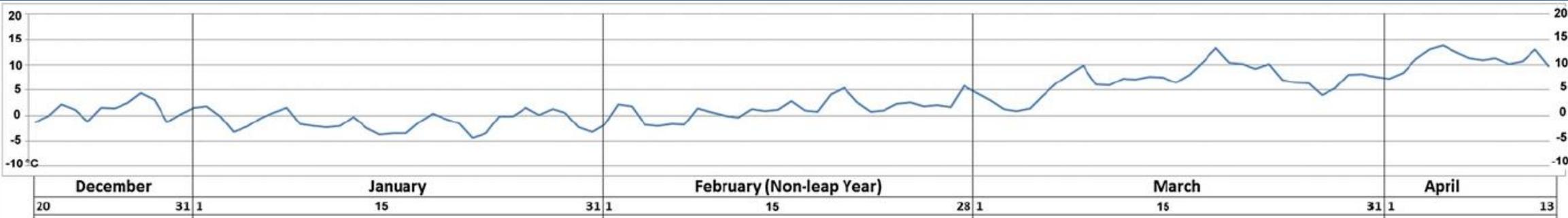
- *C. americana* x *C. avellana* hybrid from Arbor Day plot in Nebraska City.
- Seedling purchased from Badgersett Research Corp.
- Avg. kernel wt. of 1.0g
- 39% kernel
- 10-year avg. yield was 5.71lbs



NADF 10-50

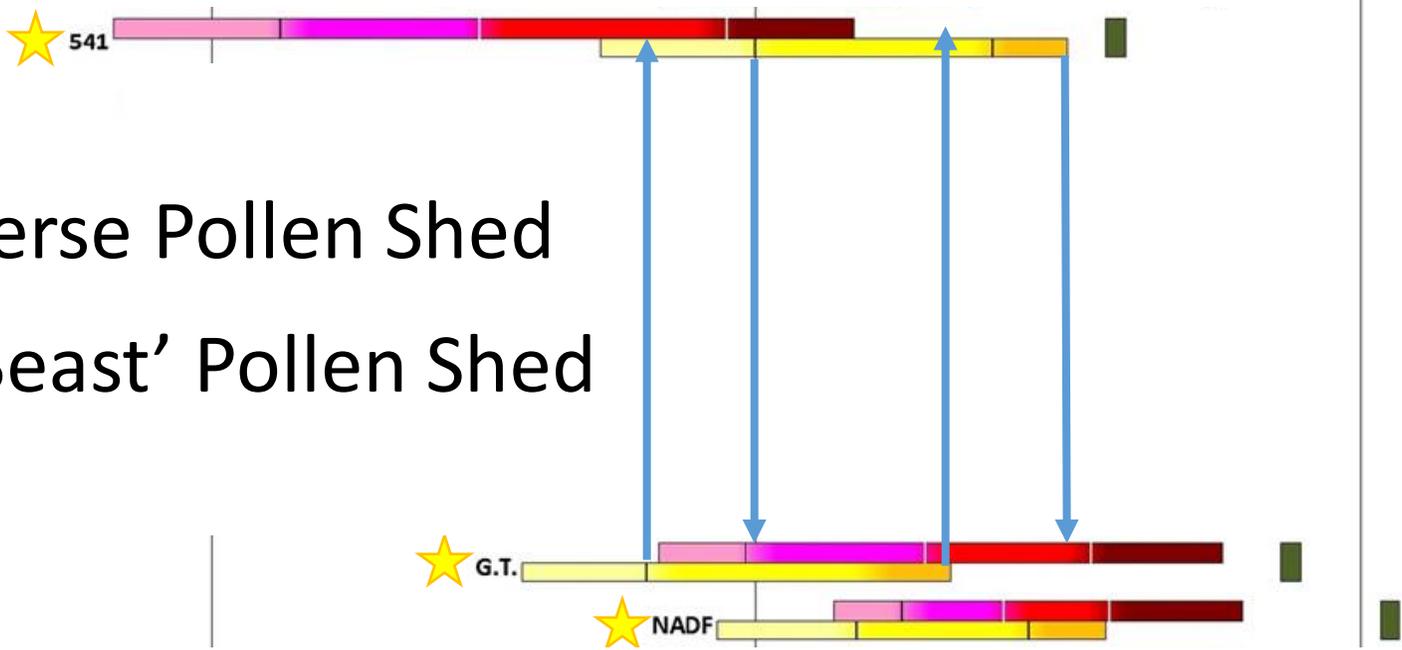
- Tissue cultures in lab at UNL, but they are growing very slowly
- Sending to a propagator in Oregon to increase numbers
- Expanded yield testing and purchase.

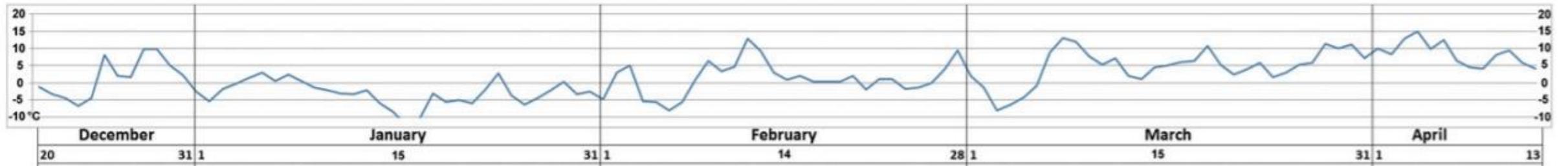




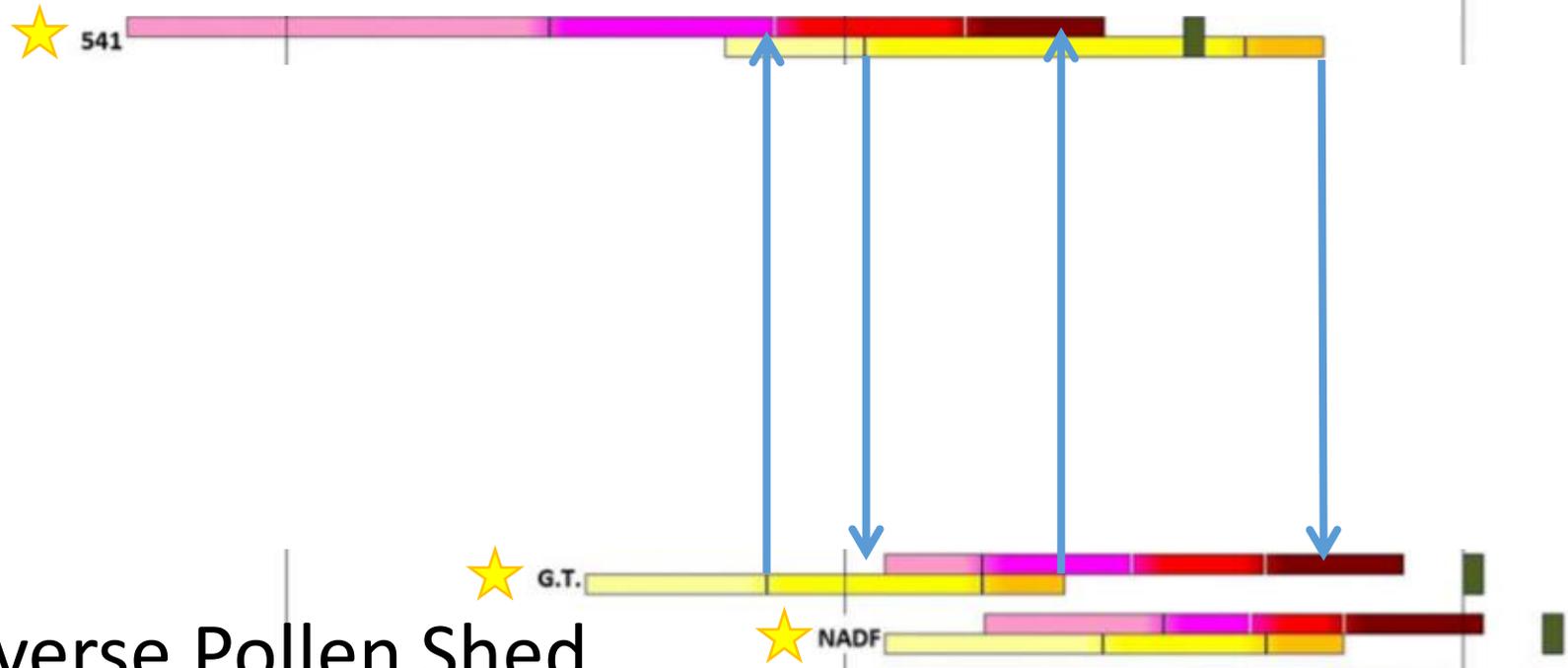
Gran Traverse Pollen Shed

541 'The Beast' Pollen Shed





541 'The Beast' Pollen Shed



Gran Traverse Pollen Shed

Expanded Yield Trials

- Distributed 'Grand Traverse' and 'The Beast' to 7 states in Spring of 2017 and Spring 2018
- NE, IA, MO, MN, WI, SD and KS
- The IA, MN and WI sites are being looked after by members of the UMHDI
 - Jeff Jensen is the contact for the Iowa sites
 - Lois Braun is the contact for the Minnesota sites
 - Jason Fischbach is the contact for the Wisconsin sites
- How will the plants handle the severe cold?



Ongoing Screening in Nebraska

- Evaluated around 3,000 plants
- 250 remaining for further evaluation
- Narrow down based on nut characteristics
- Propagate for yield tests



15.013

- 0.7g avg kernel wt.
- 49% kernel



15.035

- 1.0g avg kernel wt.
- 46% kernel



38.002

- 0.7g avg kernel wt.
- 52% kernel



75.040

- 0.9g avg kernel wt.
- 45% kernel



76.039

- 0.8g avg kernel wt.
- 32% kernel



81.054

- 1.0g avg kernel wt.
- 41% kernel



A2.035

- 0.7g avg kernel wt.
- 48% kernel
- Thin Shell



Other Testing

- *C. americana* x *C. avellana* hybrid layers from OSU
 - Nine different F1 progenies
 - Looking forward to seeing how those perform in Nebraska's climate
- Joint Performance Trial at Horning Farm
 - UMHDI sent us layers from four selections
 - Compare to 'Grand Traverse' and OSU541.147 'The Beast'



More Information:

- **Hybrid Hazelnut Consortium**

<https://www.arboday.org/programs/hazelnuts/consortium/>

<https://www.facebook.com/hybridhazelnutconsortium/>

- **Nebraska Forest Service**

<https://nfs.unl.edu/hybrid-hazelnut-consortium>

<https://www.facebook.com/nebraskaforest/>



Questions?

